

Application Serial No. 09/882,409
Reply to Office Action of September 24, 2007

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Amendments to the Claims

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1-216 (Canceled)

217. (Currently Amended) A structure for pattern formation adapted for optically forming a pattern, comprising: a substrate; and a photocatalyst-containing layer provided on [[a]] the substrate, the photocatalyst-containing layer containing a material of which the wettability is variable through photocatalytic action upon pattern-wise exposure.

218. (Previously Presented) The structure for pattern formation according to claim 217, wherein the photocatalyst-containing layer contains a compound having siloxane bond.

219. (Previously Presented) The structure for pattern formation according to claim 217, wherein the photocatalyst-containing layer contains silicone.

220. (Previously Presented) The structure for pattern formation according to claim 219, wherein groups containing a fluoroalkyl group are bonded to silicon atoms in the silicone.

221. (Previously Presented) The structure for pattern formation according to claim 219, wherein the silicone has been prepared from a composition containing an organoalkoxysilane.

222. (Previously Presented) The structure for pattern formation according to claim 219, wherein the silicone has been prepared from a composition containing a reactive silicone compound.

223. (Previously Presented) The structure for pattern formation according to

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claim 217, wherein the structure for pattern formation is original plate for a printing plate.

224. (Currently Amended) A method for pattern formation adapted for optically forming a pattern, wherein the method comprising the steps of:

providing a structure for pattern formation, exposed pattern-wise
comprises the structure comprising a photocatalyst-containing layer provided on the
substrate, the photocatalyst-containing layer containing a material of which the
wettability is variable through photocatalytic action, and changing the wettability of
the surface is changed material by the action of the photocatalyst.

225. (Currently Amended) The method for pattern formation according to claim 224, wherein ~~[[the]]~~ pattern-wise exposure of the photocatalyst-containing layer is carried out by light beam exposure.

226. (Currently Amended) The method for pattern formation according to claim 224, wherein ~~[[the]]~~ pattern-wise exposure of the photocatalyst-containing layer is carried out by exposure through a photomask.

227. (Currently Amended) The method for pattern formation according to claim 224, wherein ~~[[the]]~~ pattern-wise exposure of photocatalyst-containing layer is carried out exposure through a photomask.

228. (Currently Amended) An element comprising: ~~the structure for pattern formation according to claim 1,~~

a substrate;

a photocatalyst-containing layer provided on the substrate, the photocatalyst-
containing layer containing a material of which the wettability is variable through
photocatalytic action upon pattern-wise exposure; and

a functional layer provided on the structure for pattern formation in ~~[[its]]~~ areas
corresponding to a pattern, of the structure for pattern formation, obtained by the
pattern-wise exposure according to claim 224 wettability of the material being
changed by the action of the photocatalyst.

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229. (Previously Presented) The element according to claim 228, wherein the functional layer is a layer containing at least a metal.

230. Cancelled

231. (Currently Amended) A process for producing an element, comprising the steps of:

providing ~~[[the]]~~ a structure for pattern formation ~~according to claim 217,~~
comprising:

a substrate;

a photocatalyst-containing layer provided on the substrate, the photocatalyst-containing layer containing a material of which the wettability is variable through photocatalytic action upon pattern-wise exposure; and

forming a functional layer provided on the structure for pattern formation in ~~[[its]]~~ areas corresponding to a pattern, of the structure for pattern formation, obtained by the ~~pattern-wise exposure according to claim 224~~ wettability of the material being changed by the action of the photocatalyst.

232. (Previously Presented) The process for producing an element according to claim 231, comprising the steps of:

coating of a composition for a functional layer onto the whole surface of the structure for pattern formation, and

forming a patterned functional layer on the structure for pattern formation only in its wettability-varied exposed areas by utilizing the repellency of unexposed areas.

233. (Previously Presented) The process for producing an element according to claim 231, comprising steps of:

instillation of a composition for a functional layer onto the whole surface of the structure for pattern formation, and

forming a patterned functional layer on the structure for pattern formation only in its wettability-varied exposed areas by utilizing the repellency of unexposed areas.

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234. (Previously Presented) The process for producing an element according to claim 231, wherein the functional layer is formed on the structure for pattern formation by ejecting a composition for a functional layer through a nozzle to the wettability-varied areas.

235. (Previously Presented) The process for producing an element according to claim 234, wherein the ink-jet system is used for the nozzle ejection.

236. (Previously Presented) The process of producing an element according to claim 231, comprising the steps of:

adhesion of a composition for a functional layer onto the whole surface of the structure for pattern formation, and

forming the functional layer by transferring the composition for a functional layer in pattern-wise only to the exposed wettability-varied area, due to a difference in adherence of exposed area and unexposed area, on another substrate.

237. (Previously Presented) The process for producing an element according to claim 231, wherein the functional layer is formed on the structure for pattern formation by thermal or pressure transfer from a film coated with a composition for a functional layer or a roll coated with a composition for a functional layer.

238. (Previously Presented) The process for producing an element according to claim 231, wherein the functional layer is formed on the structure for pattern formation by film formation utilizing electroless plating.

239. (Previously Presented) The process for producing an element according to claim 231, comprising the steps of:

laminating a composition for a functional layer onto the whole surface of the structure for pattern formation, and

removing the functional layer in its unexposed areas to form a patterned functional layer.

240. (Previously Presented) The process for producing an element according to

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claim 239, wherein the functional layer is formed on the structure for pattern formation by film formation of a composition for a functional layer.

241. (Previously Presented) The process for producing an element according to claim 239, wherein the functional layer is formed on the structure for pattern formation by transferring a composition for a functional layer.

242. (Previously Presented) The process for producing an element according to claim 239, wherein the functional layer is formed on the structure for pattern formation by transferring a composition for a functional layer.

243. (Previously Presented) The process for producing an element according to claim 239, wherein the functional layer is formed on the structure for pattern formation by ejecting a composition for a functional layer through a nozzle.

244. (Previously Presented) The process for producing an element according to claim 243, wherein the ejecting through a nozzle is done by ink-jet system.

245. (Previously Presented) The process for producing an element according to claim 239, wherein the unexposed area of the functional layer is removed by a solvent.

246. (Previously Presented) The process for producing an element according to claim 239, wherein the unexposed area of the functional layer is removed by adhering and peeling off a substrate which adhesive layer is formed.